STRUCTURAL REPAIRS
SUU SETTLEMENT PROJECT
HARRIS (05829), PLANT OPERATIONS (07045), SCIENCE BUILDINGS (05833)
DFCM PROJECT NO. 05195730

State of Utah–Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building/Salt Lake City, Utah 84114/538–3018

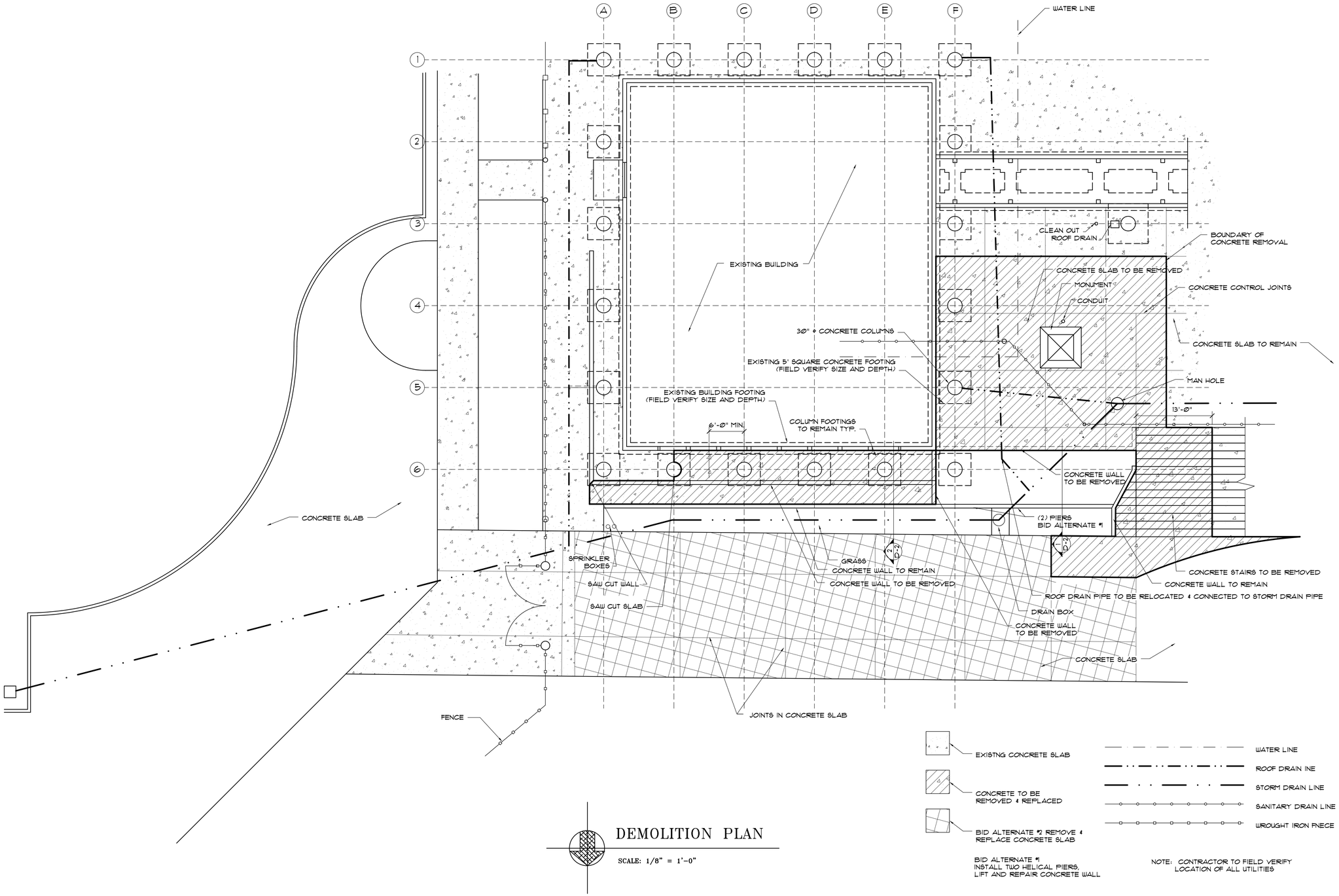
STRUCTURAL ENGINEER

DM Associates, INC.
510 S. Main, Ste. B3
Cedar City, UT 84720

Contact:
Dana A. Meier (435) 867-4242

SCHEDULE OF DRAWINGS

CIVIL	ARCHITECTURAL	STRUCTURAL	MECHANICAL	PLUMBING	ELECTRICAL
		HARRIS EAST PAVILION D-1 DEMOLITION PLAN D-2 DEMOLITION DETAILS S-1 EAST PAVILION PLAN S-2 WALL SECTIONS S-3 ROOF FRAMING S-4 STRUCTURAL NOTES PLANT OPERATIONS S-1 FOOTING & FOUNDATION S-2 WALL SECTIONS / NOTES SCIENCE BUILDING S-1 EXTERIOR STAIRWAY STABILIZATION			



DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

REVISIONS - DATE

1 2 3 4 5

DRAWN BY: KWA

CHECKED BY:

ENGINEER

ARCHITECT

DM ASSOCIATES, INC.
STRUCTURAL ENGINEERS
4925 Pinehill Dr.
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SUU SETTLEMENT PROJECT
EAST PAVILLION
CEDAR CITY, UTAH

JOB NO: 05007

JANURAY 3, 2006

SHEET: D-1

OF:

1/D-2 SECOND WALL SECTION

SCALE: 3/4" = 1'-0"

2/D-2 WALL SECTION

SCALE: 3/4" = 1'-0"

REVISIONS—DATE

1 2 3 4 5

DRAWN BY: NWA

CHECKED BY:

ENGINEER

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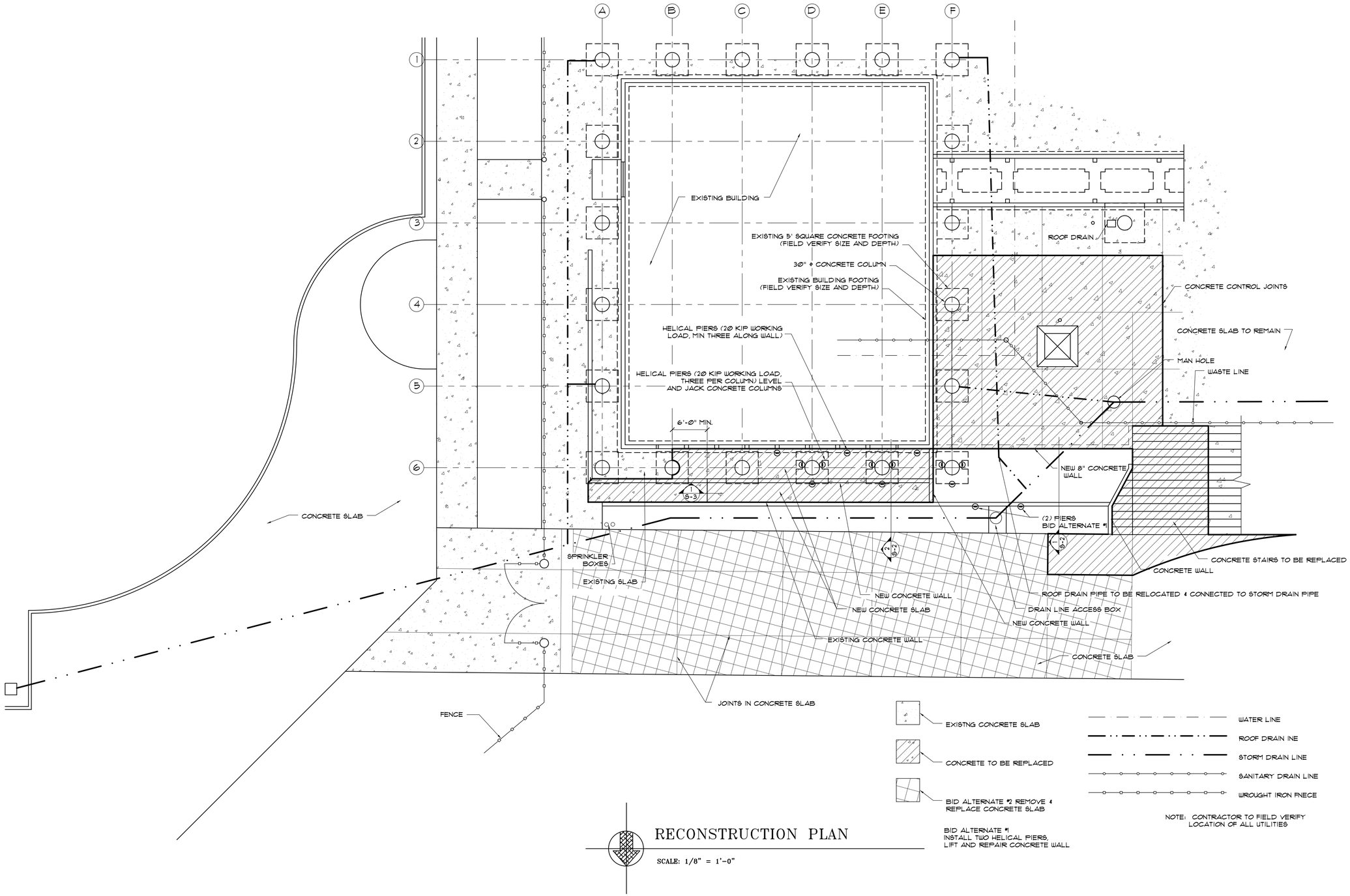
SUU SETTLEMENT PROJECT
EAST PAVILLION
CEDAR CITY, UTAH

JOB NO: 05007

JANUARY 3, 2006

SHEET: D-2

OF:



RECONSTRUCTION PLAN

SCALE: 1/8" = 1'-0"

REVISIONS – DATE

1 2 3 4 5

DRAWN BY: NWA

CHECKED BY:

ENGINEER

ARCHITECT

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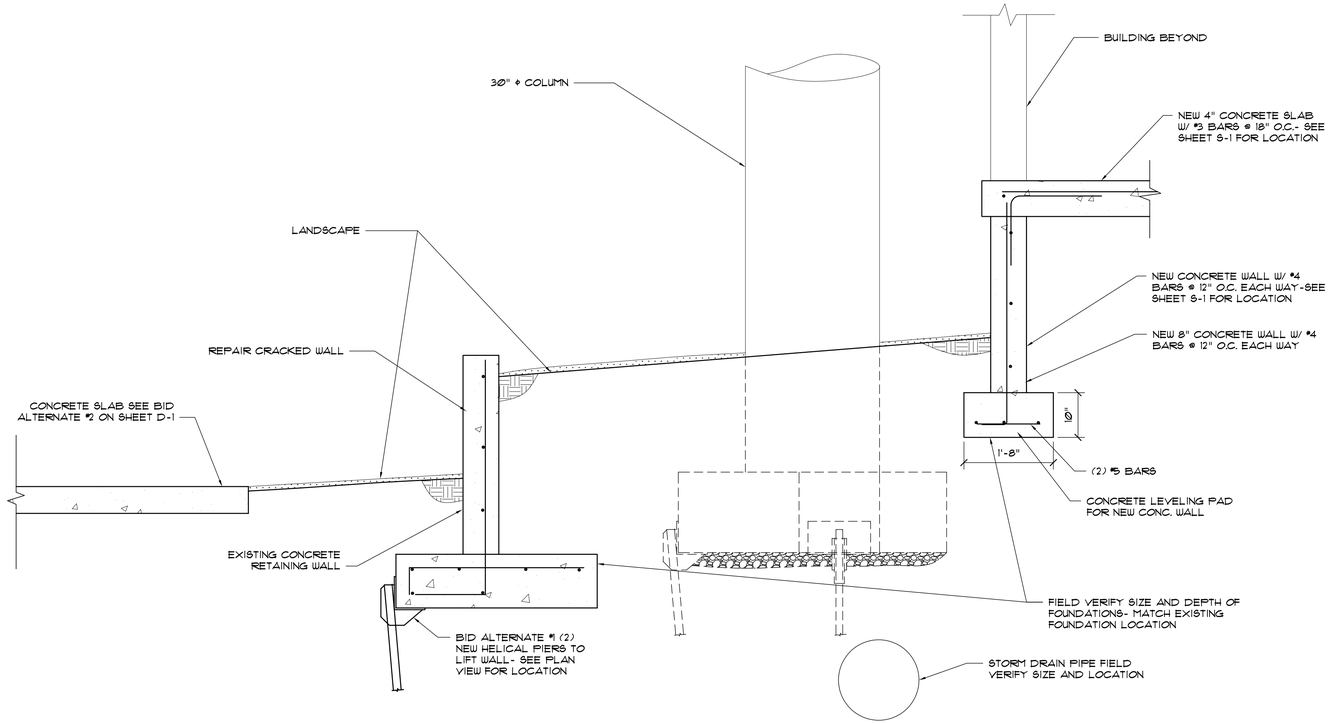
SUU SETTLEMENT PROJECT
EAST PAVILLION
CEDAR CITY, UTAH

JOB NO: 05007

JANUARY 3, 2006

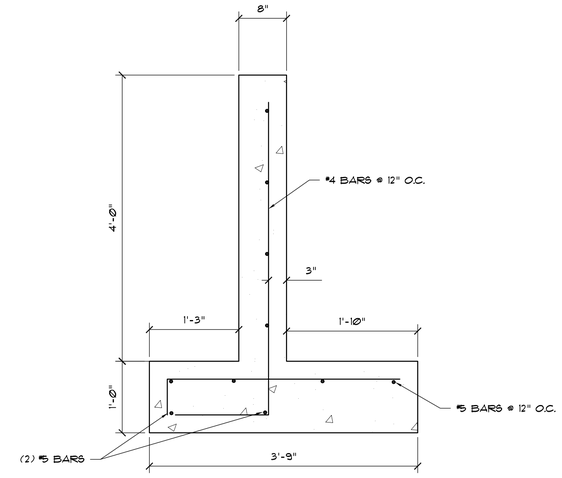
SHEET: S-1

OF:



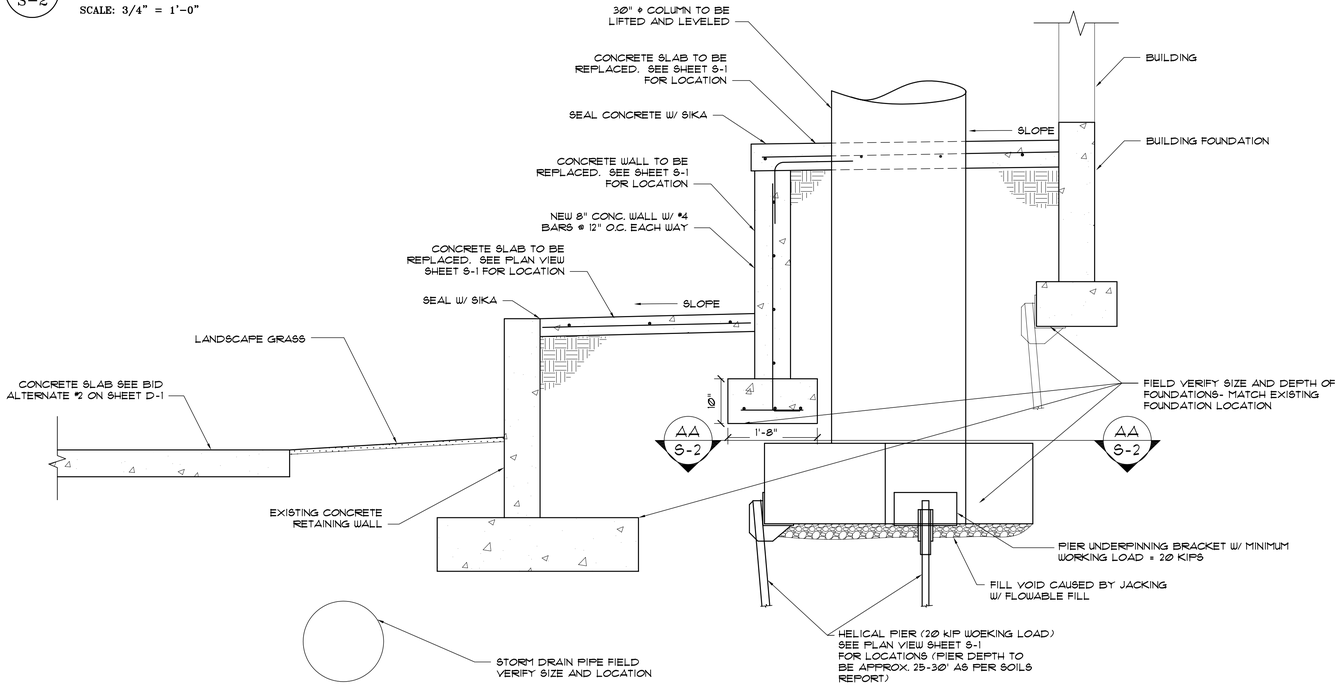
1/S-2 SECOND WALL SECTION

SCALE: 3/4" = 1'-0"



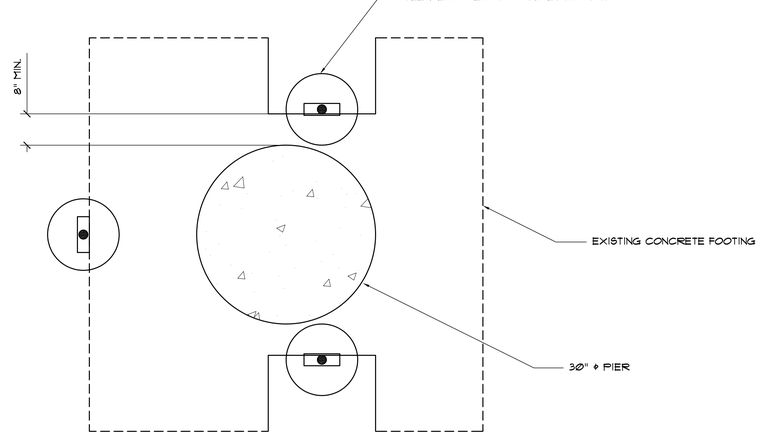
3/S-2 EXISTING RETAINING WALL DETAIL

SCALE: 1" = 1'-0"



2/S-2 WALL SECTION

SCALE: 3/4" = 1'-0"



AA/S-2 CONCRETE COLUMN PLAN VIEW

SCALE: 1" = 1'-0"

REVISIONS—DATE

1 2 3 4 5

DRAWN BY: NW A

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SUU SETTLEMENT PROJECT
EAST PAVILLION
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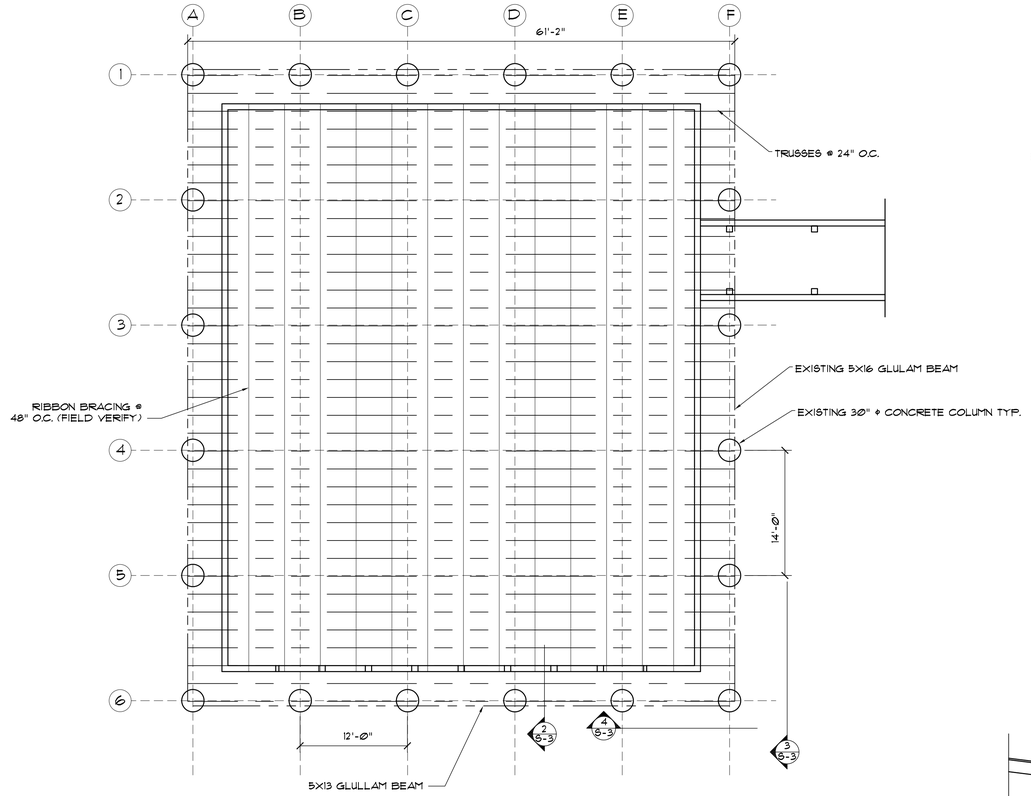
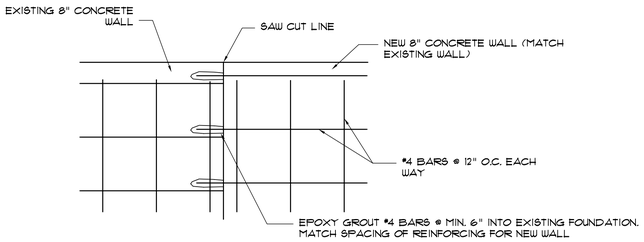
OF:



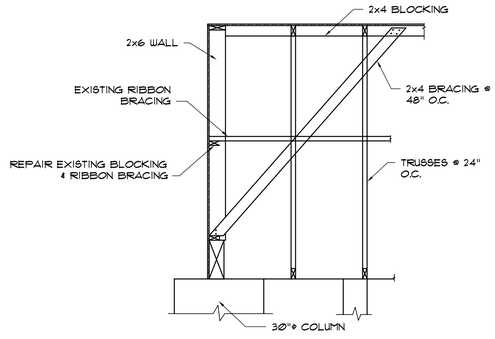
ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



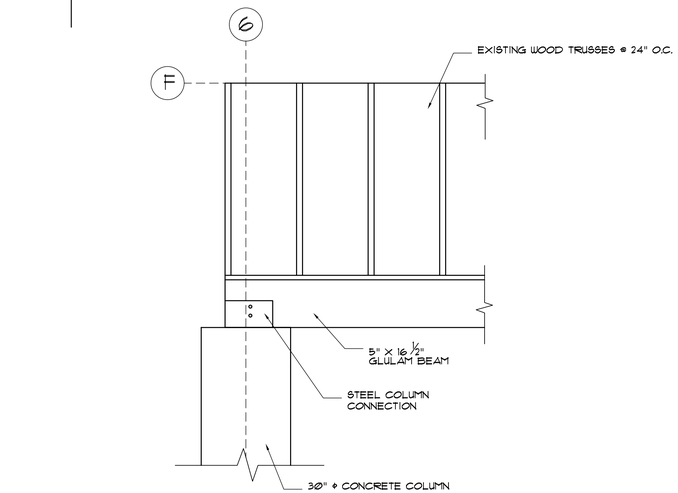
1 S-3 EPOXY DETAIL

SCALE: 3/4" = 1'-0"



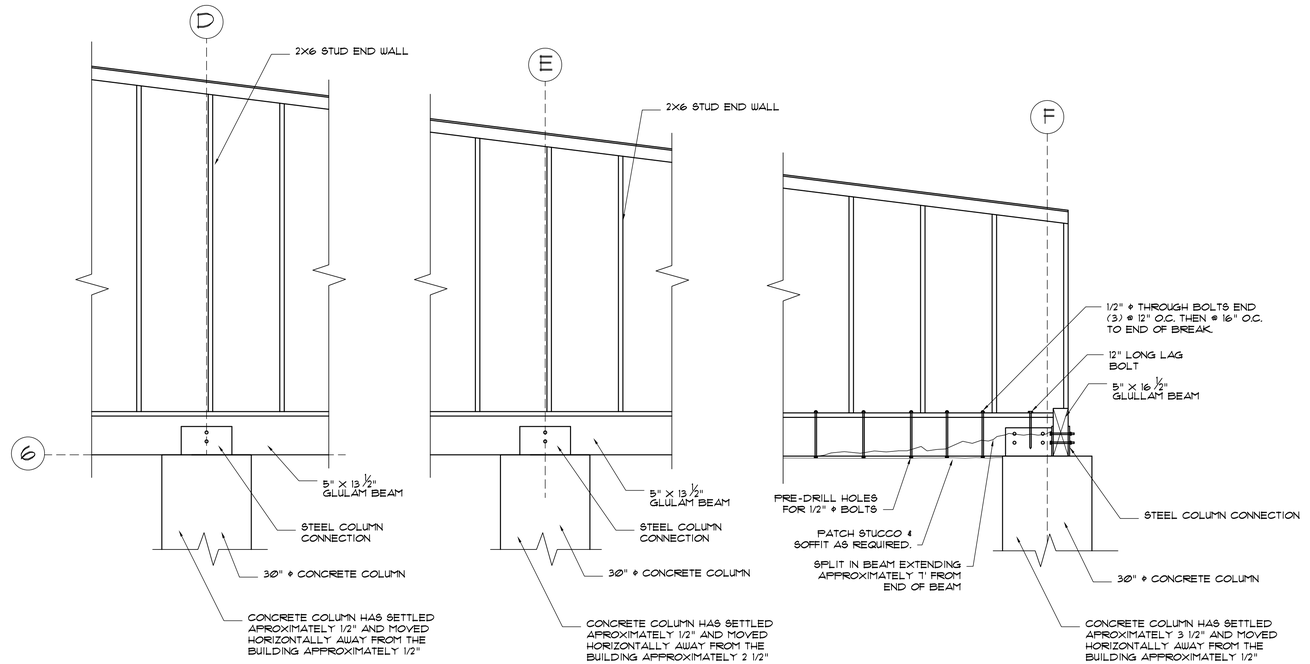
2 S-3 GABLE BRACING

SCALE: 1/2" = 1'-0"



3 S-3 COLUMN TOP DETAIL

SCALE: 1/2" = 1'-0"



4 S-3 COLUMN TOP DETAIL

SCALE: 1/2" = 1'-0"

NOTE: MOVEMENT OF COLUMNS IS AS DETERMINED BY VISUAL OBSERVATIONS. COLUMNS SHALL BE JACKED GRADUALLY WHILE MONITORING CLOSURE OF GAP. JACKING SHALL STOP WHEN GAP IS CLOSED OR WHEN DAMAGE TO FACIA OR SOFFIT IS IMMINENT.

REVISIONS—DATE

1 2 3 4 5

DRAWN BY: NWA

CHECKED BY:

ENGINEER

ARCHITECT

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SUU SETTLEMENT PROJECT
EAST PAVILLION
CEDAR CITY, UTAH

JOB NO: 05007

JANUARY 3, 2006

SHEET: S-3

OF:

CONCRETE

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE REGULATIONS IN CHAPTER 19 OF THE 2003 EDITION OF THE INTERNATIONAL BUILDING CODE. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS WITHIN 28 DAYS AFTER PLACEMENT:

FOOTINGS	3,000 PSI
FOUNDATIONS	4,000 PSI
FLATWORK	4,000 PSI

ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A615-81 GRADE 60 WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI, EXCEPT #3 AND #4 COLUMN TIES AND BEAM STIRRUPS, BREAKOUT DOWELS, WHICH SHALL BE GRADE 40 WITH A MINIMUM YIELD STRENGTH OF 40,000 PSI.

ALL CONCRETE SURFACES EXPOSED TO WEATHER SHALL BE AIR ENTRAINED WITH 6% AIR +/- 1.5%.

REINFORCING BARS SHALL NOT BE WELDED OR BENT BY HEATING. WHERE INSERTS REQUIRE WELDING TO PLATES, ANGLES AND THE LIKE, DEFORMED WELDABLE BARS SHALL BE USED (ASTM A706-80) GRADE 60.

ALL REINFORCEMENT BARS SHALL BE SECURELY ANCHORED TO THE FORMS AND SPACED FROM THEM AS FOLLOWS:

(A) FOR CONCRETE SURFACES NOT EXPOSED DIRECTLY TO THE GROUND OR WEATHER:

3/4" IN SLABS AND WALLS±
1" IN JOISTS OR WAFFLE RIBS±
1 1/2" IN BEAMS, PIERS AND COLUMNS.

(B) FOR CONCRETE SURFACES EXPOSED TO THE WEATHER, 1 1/2"

(C) FOR CONCRETE SURFACES EXPOSED TO THE GROUND AFTER REMOVAL OF FORMS, 2"

(D) FOR CONCRETE SURFACES DEPOSITED AGAINST THE GROUND, 3" CONCRETE COVER TO REINFORCEMENT.

ALL SPLICES AND LAPS IN REINFORCING BARS SHALL LAP 40 BAR DIAMETERS, UNLESS OTHERWISE NOTED, WITH MINIMUM LAP OF 12 IN. SPLICES SHALL BE MADE IN A REGION OF COMPRESSION, UNLESS SHOWN OTHERWISE.

WHERE LAPPED SPLICES IN COLUMN VERTICALS ARE USED, THE MINIMUM AMOUNT OF LAP SHALL BE 30 BAR DIAMETERS. SPLICES IN BAR WILL BE PERMITTED ONLY AT FLOOR LEVELS OR POINTS OF LATERAL SUPPORT. WHERE CHANGES IN THE CROSS SECTION OF THE COLUMN OCCUR, THE VERTICAL BARS SHALL BE OFFSET IN A REGION WHERE LATERAL SUPPORT IS AFFORDED. AT ALL OFFSETS, THE SLOPE OF THE INCLINED PORTION SHALL NOT BE MORE THAN 1 IN 6, AND IN THE CASE OF TIED COLUMNS, THE TIES SHALL BE SPACED THREE INCHES ON CENTERS FOR A DISTANCE OF ONE FOOT BELOW AND ABOVE THE POINT OF OFFSET.

AROUND OPENINGS IN CONCRETE SLABS, UNLESS OTHERWISE SCHEDULED, ADD REINFORCING EQUIVALENT TO BARS CUT BY OPENING WITH HALF ON EACH SIDE OF OPENING AND WITH AT LEAST ONE BAR EACH SIDE OF OPENING. THE BARS PARALLEL TO THE MAIN REINFORCEMENT SHALL RUN THE FULL LENGTH OF THE SPAN. THE BARS PARALLEL TO THE TEMPERATURE STEEL SHALL RUN 40 BAR DIAMETERS EACH WAY BEYOND THE OPENING.

REINFORCING BARS SHALL BE DETAILED, BOLSTERED AND SUPPORTED IN ACCORDANCE WITH ACI STANDARD 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

CHAIRS, SUPPORT AND TIE BARS REQUIRED IN ADDITION TO THE SCHEDULED REINFORCING SHALL BE FURNISHED BY THE CONTRACTOR.

CONDUITS AND PIPES EMBEDDED IN CONCRETE SHALL CONFORM TO THE REQUIREMENTS IN SECTION 1906.3 OF VOLUME II, UNIFORM BUILDING CODE - 1997 EDITION.

NO ALUMINUM OR PRODUCT CONTAINING ALUMINUM OR ANY METAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN CONCRETE.

CALCIUM CHLORIDE SHALL NOT BE USED ON ANY CONCRETE UNLESS PRIOR APPROVAL HAS BEEN SECURED IN WRITING FROM THE ARCHITECT OR THE STRUCTURAL ENGINEER.

CONSTRUCTION JOINTS NOT SHOWN ON PLANS SHALL BE MADE AND LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL BE APPROVED BY THE ARCHITECT. ALL REINFORCING BARS SHALL RUN CONTINUOUS THROUGH JOINTS.

UNLESS OTHERWISE NOTED, REINFORCE ALL CONCRETE WALLS AS FOLLOWS:

FOR 60 GRADE REINFORCING BARS:

THICKNESS	HORIZ. REINF.	VERT. REINF.
6" WALL	#4 AT 16" O.C.	#4 AT 18" O.C.
8" WALL	#5 AT 15" O.C.	#4 AT 18" O.C.
10" WALL	#5 AT 12" O.C.	#4 AT 16" O.C.
12" WALL	#4 AT 16" O.C.	#4 AT 18" O.C.
14" WALL	#5 AT 18" O.C.	#4 AT 18" O.C.

PLACE STEEL IN CENTER OF WALL (EXCEPT LARGER THAN 10 IN.). CONCRETE WALLS LARGER THAN 10" SHALL USE THE ABOVE TABLE FOR EACH MATT OF A DOUBLE MATT OF STEEL.

DOWEL FROM FOOTING OR STRUCTURE BELOW TO STRUCTURE ABOVE WITH SAME BAR SIZE AND SPACING AS VERTICAL WALL REINFORCEMENT. DOWELS SHALL HAVE AT LEAST 40 BAR DIAMETERS EMBEDMENT. BEND HORIZONTAL BARS OR PROVIDE CORNER BARS AT ALL WALL INTERSECTION WITH SAME BAR SIZE AND SPACING AS HORIZONTAL WALL REINFORCEMENT.

PROVIDE DOWELS FROM EXTERIOR FOUNDATION WALLS FOR ANCHORAGE OF ALL AREAWAY, LANDING AND PLANTER WALLS.

PROVIDE DOWELS FROM FOOTING TO FOUNDATION WALL WITH SAME SIZE AND SPACING OF STEEL AS SHOWN IN DRAWINGS FOR THE FOUNDATION WALL.

WHERE CONCRETE GIRTHS OR BEAMS ARE CONTINUOUS AROUND A CORNER, UNLESS OTHERWISE NOTED, THE MAIN REINFORCING BARS IN THE OUTER FACE SHALL BE BENT AROUND THE CORNER 40 BAR DIAMETERS FROM ONE DIRECTION, OR ADD CORNER BARS TO LAP 40 BAR DIAMETERS FROM EACH DIRECTION. REINFORCING BARS IN THE INTERIOR FACES SHALL EXTEND TO WITHIN 2 IN. OF THE OUTER FACE AND SHALL TERMINATE IN A STANDARD HOOK OR BEND.

INTERIOR SLABS-ON-GRADE SHALL BE REINFORCED WITH FLAT 6 X 6 - W1.4 X W1.4 WELDED WIRE FABRIC AND HAVE CONSTRUCTION AND CONTROL JOINTS AS INDICATED IN THE CONSTRUCTION DRAWINGS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WITH A YIELD STRENGTH OF 65,000 PSI, OR ASTM A497 WITH A YIELD STRENGTH OF 70,000 PSI.

FORMS AND SCREEDS FOR SUSPENDED CONCRETE SYSTEMS SHALL BE CAMBERED 1/4 IN. PER 10'-0" OF SPAN TO COMPENSATE FOR DEAD LOAD DEFLECTION.

REINFORCING AROUND OPENING IN CONCRETE WALLS, UNLESS OTHERWISE NOTED AND IN ADDITION TO THE REGULAR WALL REINFORCEMENT, AT LEAST ONE #5 HORIZONTAL BAR FOR EACH 5 IN. OF WALL THICKNESS OR FRACTION THEREOF MINIMUM OF 2 #5 PLACED 2 IN. ABOVE THE HEAD OF OPENING THAT EXTENDS 24 IN. BEYOND THE CORNERS OF OPENING. THE MINIMUM DEPTH OF WALL OVER OPENING SHALL BE 1/4 TIMES THE SPAN OF THE OPENING OR 12 IN., WHICHEVER IS GREATER. AT THE SIDES AND ACROSS THE BOTTOM OF OPENINGS, ADD TWO #5 BARS THAT EXTEND 24 IN. BEYOND THE CORNERS OF OPENING. BARS SHALL NEVER BE SMALLER THAN THE SCHEDULED WALL REINFORCING.

PROVIDE DOWELS FROM COLUMN OR PIER FOOTINGS OF THE SAME SIZE AND NUMBER AS THE COLUMN REINFORCING, UNLESS OTHERWISE NOTED. RUN DOWELS 40 BAR DIAMETERS INTO COLUMN OR PIER AND SAME INTO FOOTINGS.

FOOTINGS SHALL BE PLACED ON UNDISTURBED SOIL, OR STRUCTURAL FILL COMPACTED TO 95% OF MODIFIED PROCTOR ASTM D-1557 PLACED IN MAXIMUM 8" LOOSE LIFTS. SIZE AND DEPTH SHALL BE CONSTRUCTED AS SHOWN ON THE CONTRACT DRAWINGS.

FOOTINGS HAVE BEEN DESIGNED FOR 2000 PSF SOIL PRESSURE.

GENERAL CONDITIONS

1. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY BUILDING PERMITS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT AND TO CONFORM TO ALL LOCAL, STATE AND FEDERAL BUILDING AND ZONING ORDINANCES AND REGULATIONS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL JOB SAFETY AND SHALL ASSURE THAT ALL LOCAL, STATE AND FEDERAL SAFETY REGULATIONS ARE ENFORCED ON THE JOB SITE, INCLUDING ALL OSHA REGULATIONS.

3. ALL MATERIAL INSTALLATIONS SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE METHOD, MANNER AND APPLICATION OF INSTALLATION UNLESS SPECIFICALLY NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

4. PRIOR TO DIGGING ON ANY JOB SITE, THE CONTRACTOR SHALL CONTACT BLUE STAKES (800) 662-4111 TO VERIFY THE LOCATION OF ANY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO CONTACT DALE BRINKERHOFF OF SOUTHERN UTAH UNIVERSITY FOR ANY UTILITIES NOT COVERED BY BLUE STAKES TO VERIFY POTENTIAL CONFLICTS WITH UNDERGROUND UTILITIES.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING AND SUPPORT OF ALL STRUCTURAL MEMBERS AND STRUCTURAL SYSTEMS DURING CONSTRUCTION.

6. ALTHOUGH EVERY EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS.

7. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT BY GEM ENINGINEERING FOR THIS PROPERTY AND SHALL FOLLOW THE RECOMMENDATIONS THERE-IN.

8. ALL FOOTINGS SHOULD BE EMBEDDED A MINIMUM OF 30 INCHES BELOW THE LOWEST ADJACENT FINAL GRADE FOR FROST PENETRATION.

HELICAL PIERS

ALL HELICAL PIERS SHALL BE INSTALLED AS PER THE MANUFACTURERS RECOMMENDATION. ALL PIERS SHALL BE ICBO APPROVED AND THE MANUFACTURER SHALL PROVIDE THE ENGINEER WITH THE ICBO APPROVAL NUMBER. THE CONTRACTOR SHALL SUPPLY ENGINEERING SHOWING THAT THE PIERS HAVE ADEQUATE CAPACITY TO SUPPORT THE APPLIED LOADS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH SOILS REPORT AS PROVIDED BY GEM ENGINEERING INC. PRIOR TO PIER PLACEMENT CONTRACTOR SHALL COORDINATE PIER DEPTH W/ GEM ENGINEERING. CONTACT JOEL MYERS (435) 867-6478 TO VERIFY PIER PLACEMENT WILL BE IN ADEQUATE BEARING STRATA.

REVISIONS—DATE
1 2 3 4 5

DRAWN BY: NW A
CHECKED BY:

ENGINEER

ARCHITECT

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4925 Pinehill Dr.
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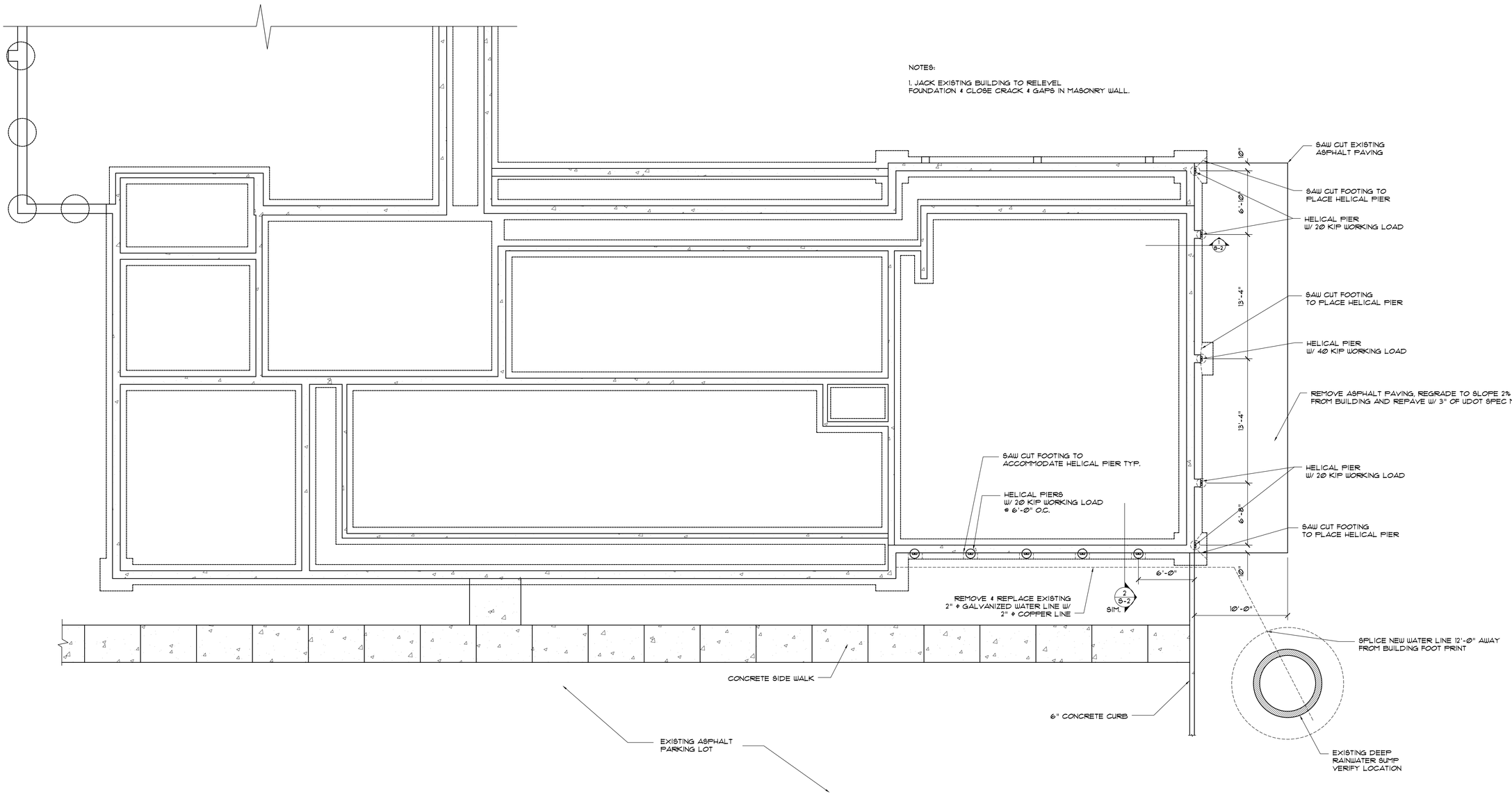
Ph (801) 266-8542

SUU SETTLEMENT PROJECT
EAST PAVILLION
CEDAR CITY, UTAH

JOB NO: 05007
JANUARY 3, 2006
SHEET: S-4
OF:

NOTES:

1. JACK EXISTING BUILDING TO RELEVEL FOUNDATION & CLOSE CRACK & GAPS IN MASONRY WALL.



FOOTING AND FOUNDATION

SCALE: 3/16" = 1'-0"

REVISIONS—DATE

1 2 3 4 5

DRAWN BY: CWM

CHECKED BY:

ENGINEER

ARCHITECT

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STRUCTURAL ENGINEERS

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SUU SETTLEMENT PLAN
PLANT OPERATIONS BUILDING
Cedar City, Utah

JOB NO: 05007

OCTOBER 31, 2005

SHEET: S-1

OF:

CONCRETE

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FOR 60 GRADE REINFORCING BARS:

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12" WALL	#4 AT 16" O.C.	#4 AT 18" O.C.
14" WALL	#5 AT 18" O.C.	#4 AT 18" O.C.

PLACE STEEL IN CENTER OF WALL (EXCEPT LARGER THAN 10 IN.). CONCRETE WALLS LARGER THAN 10" SHALL USE THE ABOVE TABLE FOR EACH MATT OF A DOUBLE MATT OF STEEL.

DOWEL FROM FOOTING OR STRUCTURE BELOW TO STRUCTURE ABOVE WITH SAME BAR SIZE AND SPACING AS VERTICAL WALL REINFORCEMENT. DOWELS SHALL HAVE AT LEAST 40 BAR DIAMETERS EMBEDMENT. BEND HORIZONTAL BARS OR PROVIDE CORNER BARS AT ALL WALL INTERSECTION WITH SAME BAR SIZE AND SPACING AS HORIZONTAL WALL REINFORCEMENT.

PROVIDE DOWELS FROM EXTERIOR FOUNDATION WALLS FOR ANCHORAGE OF ALL AREAWAY, LANDING AND PLANTER WALLS.

PROVIDE DOWELS FROM FOOTING TO FOUNDATION WALL WITH SAME SIZE AND SPACING OF STEEL AS SHOWN IN DRAWINGS FOR THE FOUNDATION WALL.

WHERE CONCRETE GIRTHS OR BEAMS ARE CONTINUOUS AROUND A CORNER, UNLESS OTHERWISE NOTED, THE MAIN REINFORCING BARS IN THE OUTER FACE SHALL BE BENT AROUND THE CORNER 40 BAR DIAMETERS FROM ONE DIRECTION, OR ADD CORNER BARS TO LAP 40 BAR DIAMETERS FROM EACH DIRECTION. REINFORCING BARS IN THE INTERIOR FACES SHALL EXTEND TO WITHIN 2 IN. OF THE OUTER FACE AND SHALL TERMINATE IN A STANDARD HOOK OR BEND.

INTERIOR SLABS-ON-GRADE SHALL BE REINFORCED WITH FLAT 6 X 6 - W1.4 X W1.4 WELDED WIRE FABRIC AND HAVE CONSTRUCTION AND CONTROL JOINTS AS INDICATED IN THE CONSTRUCTION DRAWINGS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WITH A YIELD STRENGTH OF 65,000 PSI, OR ASTM A497 WITH A YIELD STRENGTH OF 70,000 PSI.

FORMS AND SCREEDS FOR SUSPENDED CONCRETE SYSTEMS SHALL BE CAMBERED 1/4 IN. PER 10'-0" OF SPAN TO COMPENSATE FOR DEAD LOAD DEFLECTION.

REINFORCING AROUND OPENING IN CONCRETE WALLS, UNLESS OTHERWISE NOTED AND IN ADDITION TO THE REGULAR WALL REINFORCEMENT, AT LEAST ONE #5 HORIZONTAL BAR FOR EACH 5 IN. OF WALL THICKNESS OR FRACTION THEREOF MINIMUM OF 2 #5 PLACED 2 IN. ABOVE THE HEAD OF OPENING THAT EXTENDS 24 IN. BEYOND THE CORNERS OF OPENING. THE MINIMUM DEPTH OF WALL OVER OPENING SHALL BE 1/4 TIMES THE SPAN OF THE OPENING OR 12 IN., WHICHEVER IS GREATER. AT THE SIDES AND ACROSS THE BOTTOM OF OPENINGS, ADD TWO #5 BARS THAT EXTEND 24 IN. BEYOND THE CORNERS OF OPENING. BARS SHALL NEVER BE SMALLER THAN THE SCHEDULED WALL REINFORCING.

PROVIDE DOWELS FROM COLUMN OR PIER FOOTINGS OF THE SAME SIZE AND NUMBER AS THE COLUMN REINFORCING, UNLESS OTHERWISE NOTED. RUN DOWELS 40 BAR DIAMETERS INTO COLUMN OR PIER AND SAME INTO FOOTINGS.

FOOTINGS SHALL BE PLACED ON UNDISTURBED SOIL, OR STRUCTURAL FILL COMPACTED TO 95% OF MODIFIED PROCTOR ASTM D-1557 PLACED IN MAXIMUM 8" LOOSE LIFTS. SIZE AND DEPTH SHALL BE CONSTRUCTED AS SHOWN ON THE CONTRACT DRAWINGS.

FOOTINGS HAVE BEEN DESIGNED FOR 2000 PSF SOIL PRESSURE.

GENERAL CONDITIONS

1. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY BUILDING PERMITS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT AND TO CONFORM TO ALL LOCAL, STATE AND FEDERAL BUILDING AND ZONING ORDINANCES AND REGULATIONS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL JOB SAFETY AND SHALL ASSURE THAT ALL LOCAL, STATE AND FEDERAL SAFETY REGULATIONS ARE ENFORCED ON THE JOB SITE, INCLUDING ALL OSHA REGULATIONS.

3. ALL MATERIAL INSTALLATIONS SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE METHOD, MANNER AND APPLICATION OF INSTALLATION UNLESS SPECIFICALLY NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

4. PRIOR TO DIGGING ON ANY JOB SITE, THE CONTRACTOR SHALL CONTACT BLUE STAKES (800) 662-4111 TO VERIFY THE LOCATION OF ANY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO CONTACT DALE BRINKERHOFF OF SOUTHERN UTAH UNIVERSITY FOR ANY UTILITIES NOT COVERED BY BLUE STAKES TO VERIFY POTENTIAL CONFLICTS WITH UNDERGROUND UTILITIES.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING AND SUPPORT OF ALL STRUCTURAL MEMBERS AND STRUCTURAL SYSTEMS DURING CONSTRUCTION.

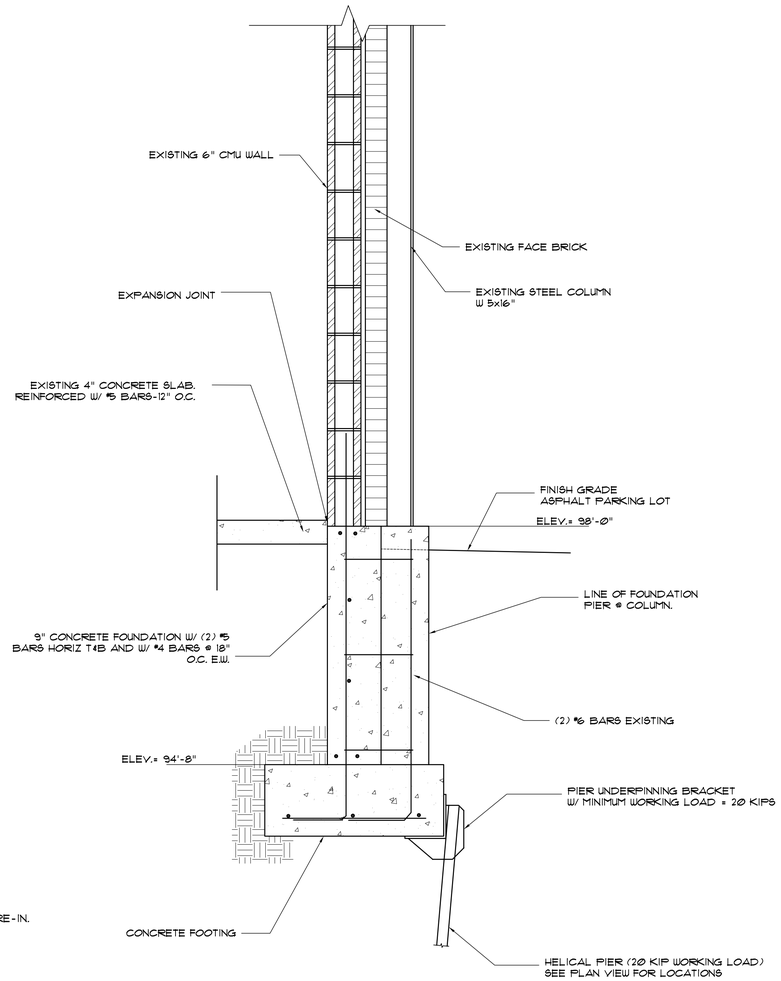
6. ALTHOUGH EVERY EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS.

7. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT BY GEM ENINGINEERING FOR THIS PROPERTY AND SHALL FOLLOW THE RECOMMENDATIONS THERE-IN.

8. ALL FOOTINGS SHOULD BE EMBEDDED A MINIMUM OF 30 INCHES BELOW THE LOWEST ADJACENT FINAL GRADE FOR FROST PENETRATION.

HELICAL PIERS

ALL HELICAL PIERS SHALL BE INSTALLED AS PER THE MANUFACTURERS RECOMMENDATION. ALL PIERS SHALL BE ICBO APPROVED AND THE MANUFACTURER SHALL PROVIDE THE ENGINEER WITH THE ICBO APPROVAL NUMBER. THE CONTRACTOR SHALL SUPPLY ENGINEERING SHOWING THAT THE PIERS HAVE ADEQUATE CAPACITY TO SUPPORT THE APPLIED LOADS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH SOILS REPORT AS PROVIDED BY GEM ENGINEERING INC. PRIOR TO PIER PLACEMENT CONTRACTOR SHALL COORDINATE PIER DEPTH W/ GEM ENGINEERING. CONTACT JOEL MYERS (435) 867-6478 TO VERIFY PIER PLACEMENT WILL BE IN ADEQUATE BEARING STRATA.



1 / S-2 WALL SECTION

SCALE: 1" = 1'-0"

REVISIONS—DATE
1 2 3 4 5

DRAWN BY: NWA
CHECKED BY:

ENGINEER

ARCHITECT

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STRUCTURAL ENGINEERS
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Cedar City, UT 84720
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4925 Pinehill Dr.
Murray, UT 84107
Ph (801) 266-8542

SUU SETTLEMENT PLAN
PLANT OPERATIONS BUILDING
Cedar City, Utah

JOB NO: 05007
OCTOBER 31, 2005
SHEET: S-2
OF:

CONCRETE

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE REGULATIONS IN CHAPTER 19 OF THE 2003 EDITION OF THE INTERNATIONAL BUILDING CODE. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS WITHIN 28 DAYS AFTER PLACEMENT:

FOOTINGS	3,000 PSI
FOUNDATIONS	4,000 PSI
FLATWORK	4,000 PSI

ALL STEEL REINFORCEMENT SHALL CONFORM TO ASTM A615-81 GRADE 60 WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI, EXCEPT #3 AND #4 COLUMN TIES AND BEAM STIRRUPS, BREAKOUT DOWELS, WHICH SHALL BE GRADE 40 WITH A MINIMUM YIELD STRENGTH OF 40,000 PSI.

ALL CONCRETE SURFACES EXPOSED TO WEATHER SHALL BE AIR ENTRAINED WITH 6% AIR +/- 1.5%.

REINFORCING BARS SHALL NOT BE WELDED OR BENT BY HEATING. WHERE INSERTS REQUIRE WELDING TO PLATES, ANGLES AND THE LIKE, DEFORMED WELDABLE BARS SHALL BE USED (ASTM A706-80) GRADE 60.

ALL REINFORCEMENT BARS SHALL BE SECURELY ANCHORED TO THE FORMS AND SPACED FROM THEM AS FOLLOWS:

(A.) FOR CONCRETE SURFACES NOT EXPOSED DIRECTLY TO THE GROUND OR WEATHER:

3/4" IN SLABS AND WALLS±
1" IN JOISTS OR WAFFLE RIBS±
1 1/2" IN BEAMS, PIERS AND COLUMNS.

(B) FOR CONCRETE SURFACES EXPOSED TO THE WEATHER, 1 1/2"

(C) FOR CONCRETE SURFACES EXPOSED TO THE GROUND AFTER REMOVAL OF FORMS, 2"

(D) FOR CONCRETE SURFACES DEPOSITED AGAINST THE GROUND, 3" CONCRETE COVER TO REINFORCEMENT.

ALL SPLICES AND LAPS IN REINFORCING BARS SHALL LAP 40 BAR DIAMETERS, UNLESS OTHERWISE NOTED, WITH MINIMUM LAP OF 12 IN. SPLICES SHALL BE MADE IN A REGION OF COMPRESSION, UNLESS SHOWN OTHERWISE.

WHERE LAPPED SPLICES IN COLUMN VERTICALS ARE USED, THE MINIMUM AMOUNT OF LAP SHALL BE 30 BAR DIAMETERS. SPLICES IN BAR WILL BE PERMITTED ONLY AT FLOOR LEVELS OR POINTS OF LATERAL SUPPORT. WHERE CHANGES IN THE CROSS SECTION OF THE COLUMN OCCUR, THE VERTICAL BARS SHALL BE OFFSET IN A REGION WHERE LATERAL SUPPORT IS AFFORDED. AT ALL OFFSETS, THE SLOPE OF THE INCLINED PORTION SHALL NOT BE MORE THAN 1 IN 6, AND IN THE CASE OF TIED COLUMNS, THE TIES SHALL BE SPACED THREE INCHES ON CENTERS FOR A DISTANCE OF ONE FOOT BELOW AND ABOVE THE POINT OF OFFSET.

AROUND OPENINGS IN CONCRETE SLABS, UNLESS OTHERWISE SCHEDULED, ADD REINFORCING EQUIVALENT TO BARS CUT BY OPENING WITH HALF ON EACH SIDE OF OPENING AND WITH AT LEAST ONE BAR EACH SIDE OF OPENING. THE BARS PARALLEL TO THE MAIN REINFORCEMENT SHALL RUN THE FULL LENGTH OF THE SPAN. THE BARS PARALLEL TO THE TEMPERATURE STEEL SHALL RUN 40 BAR DIAMETERS EACH WAY BEYOND THE OPENING.

REINFORCING BARS SHALL BE DETAILED, BOLSTERED AND SUPPORTED IN ACCORDANCE WITH ACI STANDARD 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

CHAIRS, SUPPORT AND TIE BARS REQUIRED IN ADDITION TO THE SCHEDULED REINFORCING SHALL BE FURNISHED BY THE CONTRACTOR.

CONDUITS AND PIPES EMBEDDED IN CONCRETE SHALL CONFORM TO THE REQUIREMENTS IN SECTION 1906.3 OF VOLUME II, UNIFORM BUILDING CODE - 1997 EDITION.

NO ALUMINUM OR PRODUCT CONTAINING ALUMINUM OR ANY METAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN CONCRETE.

CALCIUM CHLORIDE SHALL NOT BE USED ON ANY CONCRETE UNLESS PRIOR APPROVAL HAS BEEN SECURED IN WRITING FROM THE ARCHITECT OR THE STRUCTURAL ENGINEER.

CONSTRUCTION JOINTS NOT SHOWN ON PLANS SHALL BE MADE AND LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL BE APPROVED BY THE ARCHITECT. ALL REINFORCING BARS SHALL RUN CONTINUOUS THROUGH JOINTS.

UNLESS OTHERWISE NOTED, REINFORCE ALL CONCRETE WALLS AS FOLLOWS:

FOR 60 GRADE REINFORCING BARS:

THICKNESS	HORIZ. REINF.	VERT. REINF.
6" WALL	#4 AT 16" O.C.	#4 AT 18" O.C.
8" WALL	#5 AT 15" O.C.	#4 AT 18" O.C.
10" WALL	#5 AT 12" O.C.	#4 AT 16" O.C.
12" WALL	#4 AT 16" O.C.	#4 AT 18" O.C.
14" WALL	#5 AT 18" O.C.	#4 AT 18" O.C.

PLACE STEEL IN CENTER OF WALL (EXCEPT LARGER THAN 10 IN.). CONCRETE WALLS LARGER THAN 10" SHALL USE THE ABOVE TABLE FOR EACH MATT OF A DOUBLE MATT OF STEEL.

DOWEL FROM FOOTING OR STRUCTURE BELOW TO STRUCTURE ABOVE WITH SAME BAR SIZE AND SPACING AS VERTICAL WALL REINFORCEMENT. DOWELS SHALL HAVE AT LEAST 40 BAR DIAMETERS EMBEDMENT. BEND HORIZONTAL BARS OR PROVIDE CORNER BARS AT ALL WALL INTERSECTION WITH SAME BAR SIZE AND SPACING AS HORIZONTAL WALL REINFORCEMENT.

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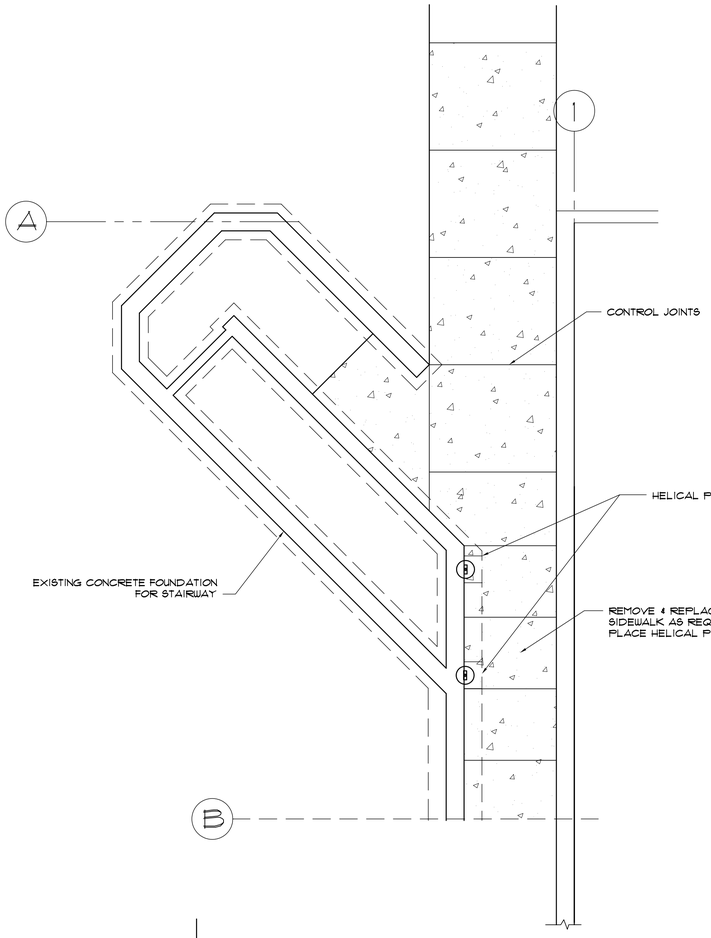

STAIR FOOTING & FOUNDATION

SCALE: 1/4" = 1'-0"

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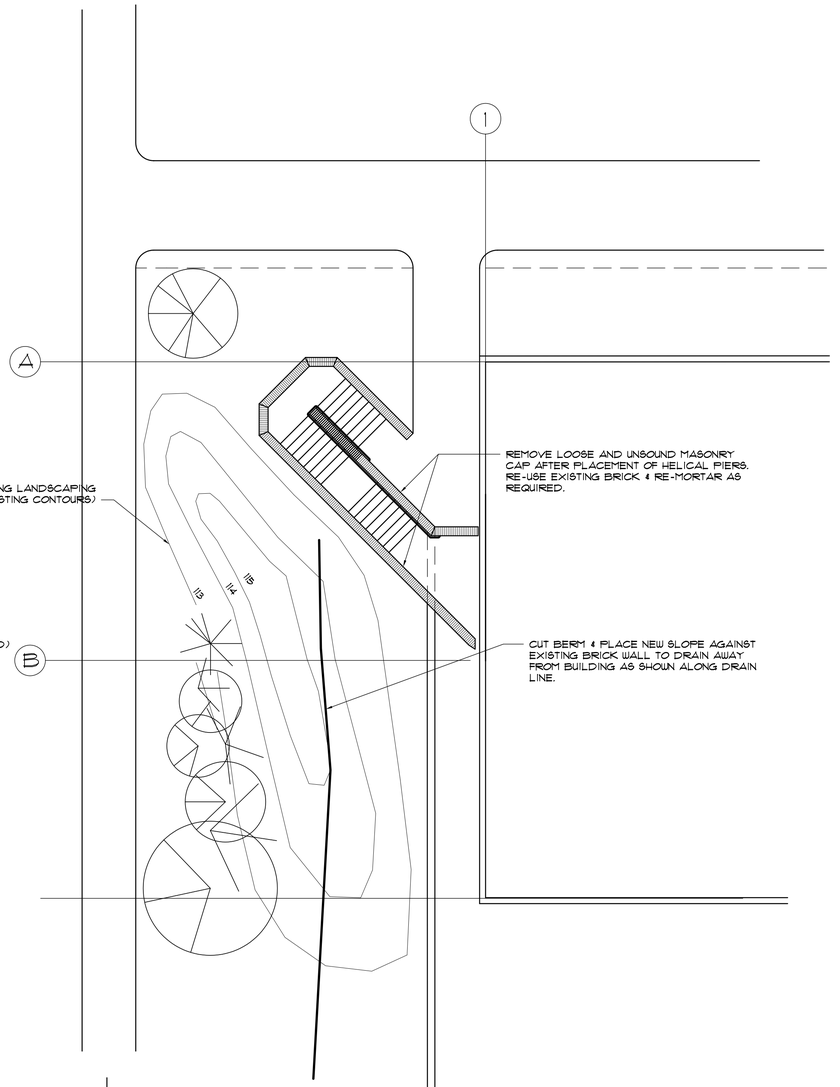

STAIR RECONSTRUCTION PLAN

SCALE: 1/8" = 1'-0"

REVISIONS—DATE

1 2 3 4 5

DRAWN BY: NW A

CHECKED BY:

ENGINEER

ARCHITECT

DM ASSOCIATES INC.
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Murray, UT 84107
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SUU SETTLEMENT PROJECT
SCIENCE BUILDING
CEDAR CITY, UTAH

JOB NO: 05007

OCTOBER 31, 2005

SHEET: S-1

OF: